

Optional Features for Outdoor Learning Areas

Natural and Constructed Wetlands

Description – Check to see if natural streams, ponds, or other bodies of water exist on the school site. These features may support student observations of wildlife, habitat, water testing, and aquatic population studies. They may be utilized with minimal support. The constructed wetland is designed for small sites where natural wetlands do not exist or their location is too far from the main school building for convenient access by classes. The wetland is designed to support hydrophytic vegetation and provide a study area that simulates real wetland conditions.

Size – The approximate size of a small constructed wetland is 8 feet by 12 feet. It should be deep enough not to freeze except in extremely cold weather. The wetland should have shelves of various depths in the water to accommodate medium and deep-water plants and fish; shallow water for edge plants, drinking water for small mammals and close up observation of aquatic life for the students.

Location – The location of the constructed wetland should be within a hose length of water. Priority should be given to areas with mostly open sun and some shade. If a pump, filter, or water feature is to be used, the wetland will need to be near an electrical outlet.



Materials Needed – 20 mil PVC liner, sand, rocks or creek stones for the edges of the liner, 4 inch diameter corrugated flexible drainage tubing with holes, silt loam or other good topsoil, mulch, hydrophytic plants, and a re-circulating pump.

Labor Needed – Heavy equipment or labor to dig a hole the dimensions of the wetland and labor using shovels and rakes.

Technical Assistance – Design information is available through local Soil Conservation Districts and the USDA Natural Resources Conservation Service.

See <http://weba.ky.gov/genericsearch/LicenseSearch.asp?AGY=17> for offices near you. For an excellent guide to creating vernal ponds (wetland that exist only when it rains) by Tom Biebighauser, see <http://www.southernregion.fs.fed.us/boone/vernal.pdf>.

Maintenance – Periodic thinning and weeding of plants and addition of water during dry periods will maintain the wetland. Fall removal of leaves and debris is recommended. Change filters and store re-circulating pumps for the winter months. Lower sensitive plants to the bottom of the pond during the cooler seasons. Return them to their shelves in the spring. Plants that cannot survive the winter should be removed in the fall and replaced in the spring.

Challenges – Overcoming the misconceptions of wetland habitats as mosquito infested areas, harbors for snakes, liability concerns, and keeping the wetland from becoming overgrown with algae is difficult. A system utilizing wetland plants, fish, and other balancing techniques should keep the wetland clear. Circulating the water should control mosquitoes and snakes are rarely visitors to these sites. The depth of the wetland is normally less than two and one-half feet, which should be manageable, with appropriate supervision.